



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: V2527-A5E SelectOne™ Upgrade Package BYPASS RATIO: 4.8  
 UNIQUE ID NUMBER: 01P10IA022 PRESSURE RATIO ( $\pi_{c0}$ ): 27.1  
 COMBUSTOR: Floatwall  
 ENGINE TYPE: MTF RATED THRUST ( $F_{00}$ ) (kN): 110.3

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	0.5	28.3	50.9	11.1
AS % OF ORIGINAL LIMIT	2.3	24.0	53.9	48.0
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			67.4	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			81.5	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			92.6	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			110.6	

For non-volatile particulate matter (nvPM) emissions, please refer to the ICAO Engine nvPM Emissions Data Sheet.

### DATA STATUS

- PRE-REGULATION  
 x CERTIFICATION  
 - REVISED (SEE REMARKS)

### TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
 - DEDICATED ENGINES TO PRODUCTION STANDARD  
 - OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 x OUT OF PRODUCTION (DATE: - )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	1.049	0.03	0.42	23.18	6.9
CLIMB OUT	85	2.2	0.873	0.03	0.44	19.36	7.7
APPROACH	30	4.0	0.328	0.07	2.25	9.74	3.8
IDLE	7	26.0	0.134	0.14	11.96	5.19	1.6
LTO TOTAL FUEL (kg) or EMISSIONS (g)			447	39	2741	5102	-
NUMBER OF ENGINES				2	2	2	2
NUMBER OF TESTS				4	4	4	4
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				0.4	24.8	46.3	9.4
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	100.4-102.9
TEMPERATURE (K)	268.2-277.7
ABS HUMIDITY (kg/kg)	0.0014-0.00359

### FUEL

SPEC	Jet A
H/C	1.91
AROM (%)	17

MANUFACTURER: International Aero Engines  
 TEST ORGANIZATION: Pratt & Whitney  
 TEST LOCATION: East Hartford, CT  
 TEST DATES: 11/12/2008-19/01/2009

### NO<sub>x</sub> REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
x	2.3.2 d) (CAEP/6)
	2.3.2 e) (CAEP/8)

### REMARKS

- Engine performance reflects new SelectOne™ package upgrades.
- Certification in accordance with Part III, Chapter 2, of Amendment 6 of ICAO Annex 16 Vol. II.
- NO<sub>x</sub> levels in accordance with Part III, Chapter 2, 2.3.2 d) (CAEP/6)

Compliance with Fuel Venting requirements: x ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)